

Amendments to the Claims

Amendments to the Claims are reflected in the following Listing of Claims, which replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (canceled)

2. (currently amended) A heat shield according to claim [[19]] 47, said first and second metallic outer layers having substantially the same thickness.

3. (currently amended) A heat shield according to claim [[19]] 47, said first and second metallic outer layers being made from the same metal or metal alloy.

4. (canceled)

5. (currently amended) A heat shield according to claim [[4]] 47, said foam layer comprising polyurethane foam.

6. (canceled)

7. (currently amended) A heat shield according to claim [[19]] 47, said foam layer comprising a semi-rigid foam.

Claims 8-9: (canceled)

10. (currently amended) A heat shield according to claim [[19]] 47, said foam layer comprising a substantially semi-rigid foam that is reversibly deflectable from the force of an impacting acoustical wave to a sufficient extent to absorb or redirect a portion of the wave's acoustical energy.

11. (original) A heat shield according to claim 10, said foam being at least 95 percent recoverable from an acoustical deflection.

12. (currently amended) A heat shield according to claim [[19]] 47, said foam layer having a thickness of 0.005-0.75 inches.

13-14. (canceled)

15. (currently amended) A heat shield according to claim [[19]] 47, further comprising a porous material layer embedded within said foam layer.

16. (original) A heat shield according to claim 15, said porous material layer being a fiber mat being made from non-woven fibers.

17. (previously presented) A heat shield according to claim 16, said fibers in said porous material layer being polypropylene fibers.

18. (original) A heat shield according to claim 15, said porous material layer being spaced substantially equidistant from the first and second metallic outer layers, and having a thickness of about 2-2.5 mm.

19. (currently amended) A heat shield according to claim 47, comprising a first metallic outer layer, a second metallic outer layer, and a foam layer disposed in between said first and second metallic outer layers, said first metallic outer layer having a thickness of 0.001-0.02 inches, said heat shield further comprising an absorber layer comprising fluffy fibers laminated to the second metallic outer layer opposite the foam layer, said absorber layer having a thickness of at least about 1/4 inch.

20. (original) A heat shield according to claim 19, said absorber layer comprising polyester fluffy fibers, polyethylene fluffy fibers, or a mixture thereof.

21. (currently amended) A heat shield according to claim [[19]] 47, said foam layer being made from an expandable foaming composition comprising 10-40 weight percent of a first polyol, 20-50 weight percent of a second polyol, 5-20 weight percent isocyanate excluding the weight of the molecule(s) to which the isocyanate groups are attached, 0-0.5 weight percent tin catalyst, 0.2-2 weight percent amine catalyst, 0-2.5 weight percent surfactant, and 0.1-5 weight percent foaming agent, wherein the first polyol has a molecular weight of 200-600 and a hydroxyl number of 200-600, and the second polyol has a molecular weight of 2000-8000 and a hydroxyl number of 10-200.

22. (original) A heat shield according to claim 21, said first and second polyols being sucrose-based and glycerin-based polyols respectively.

23. (original) A heat shield according to claim 21, said isocyanate being provided in the form of an allophanate-modified diphenylmethanediisocyanate.

Claims 24-32: (canceled)

33. (currently amended) A heat shield according to claim [[19]] 47, having an area density less than 0.35 lb/ft².

Claim 34: (canceled)

35. (currently amended) A heat shield according to claim [[19]] 47, said heat shield being internally damped against vibration.

Claims 36-38: (canceled)

39. (currently amended) A heat shield according to claim [[19]] 47, said foam layer being effective to ~~withstand operative heat shield temperatures of at least 1000°F, and to dampen acoustic tonal frequencies below 250 Hz.~~

40. (currently amended) A heat shield according to claim 19, said fibrous absorber layer having a thickness of not more than about 1/2 inch.

41. (previously presented) A heat shield according to claim 19, said foam layer being deformable to accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use, without substantially damaging the cellular structure of the foam as a result of such deformation.

42. (currently amended) A heat shield according to claim [[19]] 47, said foam layer comprising a substantially rigid polyurethane foam that is sufficiently pliant to be bent to and accommodate a particular shape and contour to which the heat shield is to be bent and to generally conform in use, without substantially damaging the cellular structure of the foam as a result of such bending, said polyurethane foam being reversibly deflectable from the force of an impacting acoustical wave to a sufficient extent to absorb or redirect a portion of the wave's acoustical energy.

43. (canceled)

44. (currently amended) A heat shield according to claim [[19]] 47, said foam layer having a thickness of 0.15-0.17 inches.

45. (currently amended) A heat shield according to claim [[19]] 47, said foam layer being made as an expanded foam layer between the first and second metallic outer layers, such that the foam layer is adhesively bonded to adjacent surfaces of the respective first and second metallic outer layers without a separate adhesive or adhesive layer.

46. (canceled)

47. (new) A heat shield comprising a first metallic outer layer, a second metallic outer layer, and a foam layer disposed in between said first and second metallic outer layers, said foam layer being deformable to accommodate a particular shape and contour to which the heat shield

is to be bent and to generally conform in use without substantially damaging the cellular structure of the foam as a result of such deformation, said foam layer being effective to withstand operative heat shield temperatures of at least 1000°F, and to dampen acoustic tonal frequencies below 2000 Hz, said heat shield being fastened or mounted to a body panel of an automobile.

48. (new) A heat shield according to claim 47, said foam being reversibly deflectable from the force of an impacting acoustical wave to a sufficient extent to absorb or redirect a portion of the wave's acoustical energy.

49. (new) A heat shield according to claim 47, said first metallic outer layer having a thickness of 0.001-0.02 inches.